Warwick Public Library

Bid #2017L-01 Electric Surge and Lightning Protection

Specifications are available in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick, RI, Monday through Friday, 9:00 AM until 4:00 PM on or after Thursday, September 1, 2016. They may also be obtained on the City of Warwick's website http://www.warwickri.gov/bids.

Sealed bids will be received in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick, RI 02889 until **3:00 PM** *on Wednesday, September 21, 2016.* The bids will be opened publicly commencing at **3:00 PM** on the same day in the Administrative Office, Warwick Public Library.

The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap for any position for which the employee or applicant is qualified and that in the event of noncompliance the Library may declare the contractor in breach and take any necessary legal recourse including termination or cancellation of the contract.

A bidder filing a bid thereby certifies that no officer, agent, or employee of the Library or City has a pecuniary interest in the bid or has participated in contract negotiations on the part of the Library, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same call for bids, and that the bidder is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or firm.

All bids should be submitted with one (1) original in a sealed envelope. The exterior of the envelope shall be plainly marked to include: Your Company Name and "*Bid #2017L-01 Electric Surge and Lightning Protection*". Bids received prior to the time of the opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified. No bids shall be accepted via fax or email.

All questions pertaining to these specifications should be referred to Christopher La Roux, Director, Warwick Public Library, 600 Sandy Lane, Warwick RI 02889, 401-739-5440 ext. 223.

Any deviation from the specifications must be noted in writing and attached as part of the bid. The Bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from the specifications.

Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it is opened.

The successful bidder must provide the City of Warwick Public Library with an ***original*** certificate of insurance for General Liability in a minimum **amount of $1 million** naming the ***City of Warwick as the additional insured*** and so stated on the certificate with the bid name and bid number.

The contractor must carry sufficient liability insurance and agree to indemnify the Library against all claims of any nature, which might arise as a result of his operations or conduct of work.

Failure to provide adequate insurance coverage within the specified duration of time as set forth is a materials breach of contract and grounds for termination of the contract.

The successful bidder must comply with all Rhode Island Laws, applicable to public works projects, including, but not limited to provisions of Chapter 13 of Title 37 of the Rhode Island General Laws, pertaining to prevailing wage rates, and all other applicable local, state and federal laws. Prevailing Wages will apply to this bid. Current rates may be viewed at http://www.wdol.gov/dba.aspx#0 .

The IRS Form W-9 must be completed and submitted with the bid if the bidder falls under IRS requirements to file this form.

Prices to be held firm *through completion of the project.*

The Library is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph I, as amended.

The successful bidder must comply with all Rhode Island Laws, applicable to public works projects, including, but not limited to provisions of Chapter 13 of Title 37 of the Rhode Island General Laws, pertaining to prevailing wage rates, and all other applicable local, state, and federal laws.

Awards shall be made on the basis of the lowest evaluated or responsive bid price. The Board of Trustees of the Warwick Public Library is not obligated to accept the lowest bid and reserves the right to reject any and all bids or amend the scope of the project.

The Library reserves the right to terminate the contract or any part of the contract in the best interests of the Library, upon 30-day notice to the contractor. The Library shall incur no liability for materials or services not yet ordered if it terminates in the best interests of the Library. If the Library terminates in the interests of the Library after an order for materials or services has been placed, the contractor shall be entitled to compensation upon submission of invoices and proper proof of claim, in that proportion which its services and products were satisfactorily rendered or provided, as well as expenses necessarily incurred in the performance of work up to time of termination.

All costs directly or indirectly related to the preparation of a response to this solicitation, or any presentation or communication to supplement and/or clarify

any response to this solicitation, which may be required or requested by the Library, shall be the sole responsibility of and shall be borne by the respondent.

If the respondent is awarded a contract in accordance with this solicitation and the respondent's bid or response, and if the respondent fails or refuses to satisfy fully all of the respondent's obligations there under, the Warwick Public Library shall be entitled to recover from the respondent any losses, damages or costs incurred by the Library as a result of such failure or refusal.

The Library reserves the right to rescind award for non-compliance to bid specifications.

The successful bidder must adhere to all City, State and Federal Laws, where applicable.

Warwick Public Library

Bid #2017L-01 Electric Surge and Lightning Protection

I. Description:

Supply and install **Replacement Main Switchboard Transient Voltage Surge Suppressor.***

Include the following:

Remove existing damaged transient surge suppressor

Unit Specifications: GE 100KA self-enclosed TVSS with two-year warranty (equivalents not acceptable)

Install replacement transient unit to left of existing. (Existing type unit not available).

Provide building shut down of power with National Grid to make final connections.

Supply and install **Main Switchboard GE Self-Enclosed Lightning Arrestor***

Include the following:

Install lightning protection equipment located on the main switch breaker

*Equipment descriptions are attached.

II. Schedule:

Day 1: Complete pre-install prior to power shut down.
Day 2: Schedule building power shut down and complete terminations.

Power shut down should be scheduled to allow Library to have electricity by 8 a.m. for opening to the public by 9 a.m.

III. Notes:

Quote must include fees to National Grid to mobilize and cut power to the building and stand-by for re-energizing.

City of Warwick Electrical inspection is required prior to re-energizing.

Permit fees must be included.

IV. Site Visit

Respondents to this request who wish to visit the Library may do so, during regular library hours, and by appointment only. Contact Chris La Roux, Library Director, 401-739-5440, ext 223.

V. Selection process

All bids must be received at the Library in the office of the Director by *3:00 PM, Wednesday, September 21, 2016* at which time they will be opened publicly.

Awards shall be made on the basis of the lowest evaluated or responsive bid price. The Board of Trustees of the Warwick Public Library is not obligated to accept the lowest bid and reserves the right to reject any and all bids or amend the scope of the project.

Bid evaluations will consider costs, qualifications and experience of the respondent.

VI. Bid requirements

All bids must include a completed bid form.

BID FORM

Warwick Public Library

Bid #2017L-01 Electric Surge and Lightning Protection

CONTRACTOR'S NAME:_____

CONTRACTOR'S ADDRESS:_____

_____

PHONE:_____FAX:_____

The undersigned proposes to furnish all labor at prevailing wage rates and materials required for the project described in the bid specifications at the Central Library at 600 Sandy Lane, Warwick Rhode Island for the Contract price specified below. The undersigned agrees that if selected as the General Contractor the terms of the Bid will be executed *before December 31, 2016.*

Base Price: To include all work specified or required for the completion of the project. Price to include purchase, preparation, installation, permits, and cleanup.

Electrical Work: $_____

Warranty:_____

Timeline: _____

Contractor's hourly RI prevailing wage rate for an Electrician: _____

Contractor's hourly RI prevailing overtime wage rate for an Electrician_____

Attach 2 references for similar contracts including names and contact information.

Authorized signature:_____

Printed Name:_____ Date: _____

GE Digital Energy
Power Quality

Introduction

GE Surge Protective Devices (SPD) are engineered for reliability, flexibility and long life in the most extreme surge environment. The true maximum surge current rating, unlimited by fusing, has been proven successful in third-party tests.

Recommended installation locations are primary and secondary distribution and point of use levels. Designed for distribution and point of use locations, but rated for service entrance, the Tranquell™ HE and ME with enhanced thermal protection has been third-party tested to ANSI/IEEE C3 10kA 8x20µs impulses. The entire Tranquell™ HE and ME line-up has been engineered to the highest standards and is designed for rigorous duty and long life, as evidenced in our outstanding minimum repetitive surge current capacity test results.

These devices are available in multiple enclosure types, including include flush mount, surface mount, fiberglass and stainless steel.

Third-party tested per IEEE C62.62 and NEMA LS-1 for the rated 8x20µs surge current, per mode with fusing included. Standard features include a surge counter, audible alarm, indicating lights, dry contacts, and an integral surge rated disconnect. Rating options range from 65kA to 300kA per mode (130kA to 600kA per phase).

Features and Benefits

- > UL 1449 3rd Edition, Type 1 and Type 2
- > cUL, CSA C22.2
- > UL 96A, for use in lightning protection systems
- > UL 1283, EMI/RFI noise filter
- > Integral surge rated disconnect (optional)
- > Tranquell™ ME device tested to a minimum of 5,000 category C3 impulses (10kA, 20kV) per mode
- > Tranquell™ HE device tested to a minimum of 20,000 category C3 impulses (10kA, 20kV) per mode
- > Thermally protected MOVs eliminate the need for additional upstream over current protection
- > NO/NC Form C dry type contacts for remote monitoring
- > Green status indicating lights, red alarm light
- > Audible alarm with test/disable feature
- > Standard LCD surge counter
- > 5 year limited warranty (standard), 10 year limited warranty (optional)

Wallmount

Tranquell™ HE & ME

Surge Protective Device (SPD) with Enhanced Thermal Protection

Technical Specifications

Nominal Discharge Current (I_n)	20kA
Short Circuit Current Rating (SCCR)	200kA
Operating Frequency	50/60 Hz
Connection	6 to 2/0 Conductors, Parallel Connected
Operating Temperature	-40° F to 149° F (-40° C to +65° C)
Operating Humidity	0% to 95% Non-Condensing
Weight	NEMA Enclosure Suffix:
	1 63 lbs. (28.5 kg)
	4 56 lbs. (25.4 kg)
	4S, 12S, 12F 44 lbs. (20.0 kg)
	4X 50 lbs. (22.7 kg)

c UL us

TPHE277Y10WMN1

Catalog # T P _ _ _ _ _ _ _ _ _ _ W M N _ _ _ _ _

BLANK = UL Type 2
T1 = UL Type 1

		Nominal Voltage (Volts RMS)	System Voltage Configuration	MCOV Max. Continuous Operating Voltage L-N/G (Vrms)
ME	**120S**	120/240	1 Ph, 3 W + G	150
HE	**120Y**	120Y/208	3 Ph, 4 W + G	150
	220Y	220Y/380	3 Ph, 4 W + G	320
	240D	240 Delta	3 Ph, 3 W	270
	240H	120/240 Delta HL	3 Ph, 4 W + G	150/270 HL
	240Y	240Y/415	3 Ph, 4 W + G	320
	277Y	277Y/480	3 Ph, 4 W + G	320
	347Y	347Y/600	3 Ph, 4 W + G	420
	480D	480 Delta	3 Ph, 3 W	550

Also available in 600D configurations. For details, please contact GE Power Quality Customer Service at 800 637 1738.

	Maximum Surge Current Capacity		
	Exposure Level	Per Mode	Per Phase
06	ME	65kA	130kA
08	ME	80kA	160kA
10	ME	100kA	200kA
12	HE	125kA	250kA
15	HE	150kA	300kA
20	HE	200kA	400kA
25	HE	250kA	500kA
30	HE	300kA	600kA

Phase Rating = (L-N + L-G)

Suffix	Enclosure Description	NEMA	Mounting	Disconnect
1	Painted Steel	1	Surface	Y
12S	Painted Steel	12	Surface	N
12F	Painted Steel	12	Flush	N
4	Fiberglass	4X	Surface	Y
4S	Painted Steel	4	Surface	N
4X	Stainless Steel	4X	Surface	N

Catalog # example:
TPHE277Y15WMN12S

- 277Y/480 V, 3 Ph, 4 W + G
- 150kA per mode
- Surface mount enclosure without disconnect
- Painted steel

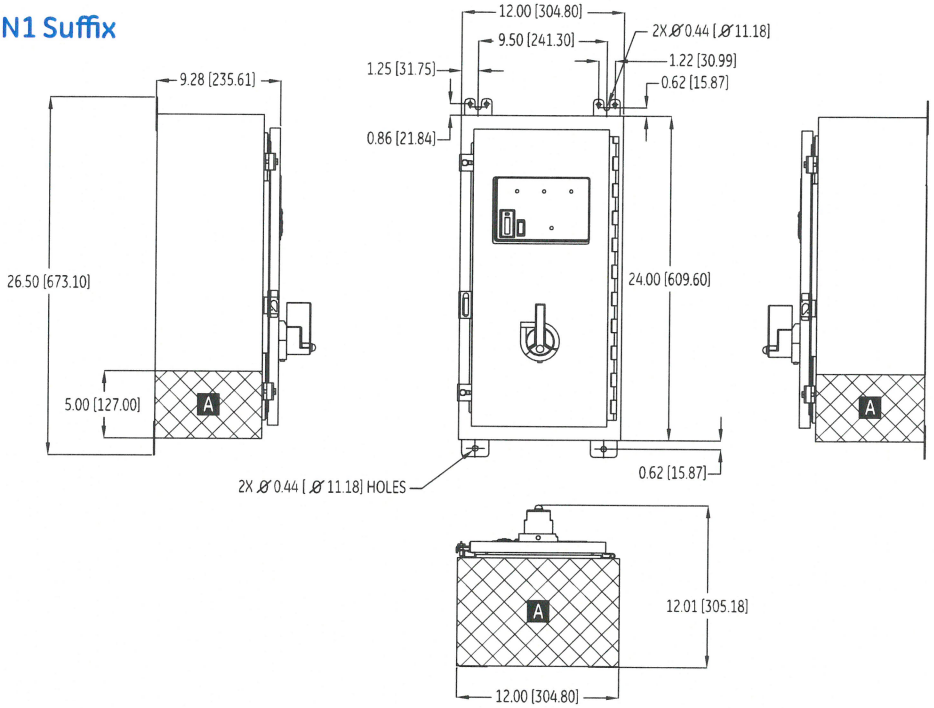
Protection Ratings

Voltage Code	120S / 120Y				240D		240H							220Y / 240Y / 277Y				347Y				480D	
Protection Mode	L-N	L-G	N-G	L-L	L-G	L-L	L-N	HL-N	L-G	HL-G	N-G	L-L	HL-L	L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	L-G	L-L
UL 1449, 3rd Edition Voltage Protection Ratings (VPR) (assigned UL rating)	900	800	700	1200	1200	1800	1000	1200	800	1200	700	2000	2200	1500	1200	1200	2000	1500	1500	1500	2500	1800	3000
UL 1449, 2nd Edition Suppression Voltage Ratings (SVR) (assigned UL rating) *	400	400	400	700	800	1500	500	700	400	700	400	900	–	800	800	800	1500	1200	1000	1000	2000	1500	3000
B3 Ring Wave Clamping Voltage @ 6kV, 500A	470	463	452	752	750	1240	465	–	466	–	476	1025	–	763	836	828	1393	883	1000	1000	1723	1223	1800
C3 Combo Wave Clamping Voltage @ 20kV, 10kA	793	670	680	1007	890	1640	775	–	670	–	680	1163	–	1170	1073	1180	1827	1467	1240	1240	2220	1607	2933

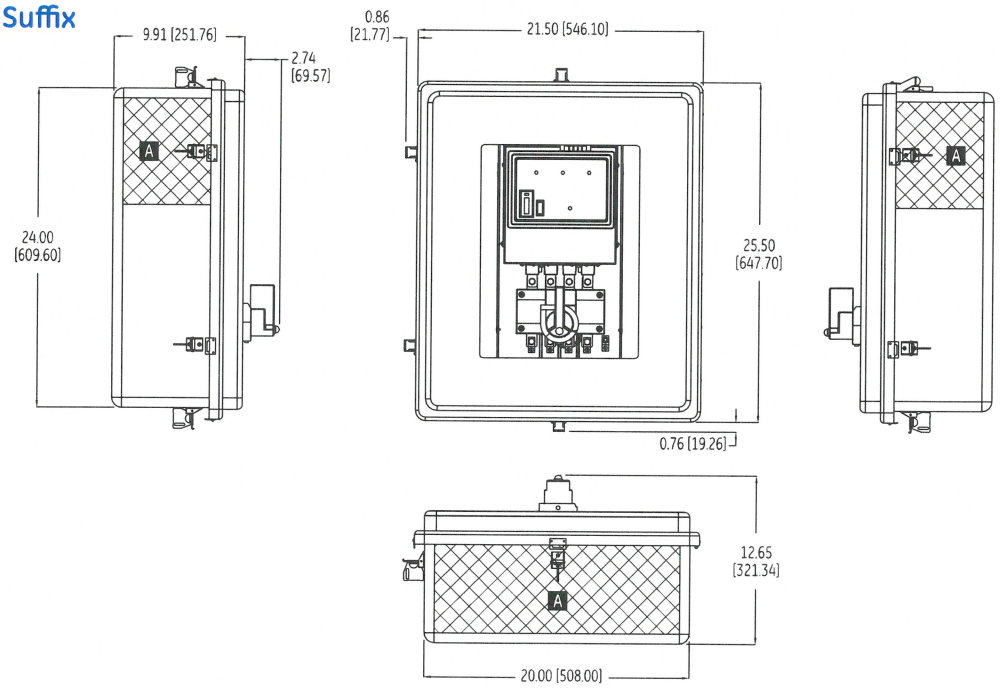
*** NOTE**: SVR Ratings are no longer assigned by UL and are included in the table above for reference purposes only.

Dimensions

WMN1 Suffix



WMN4 Suffix

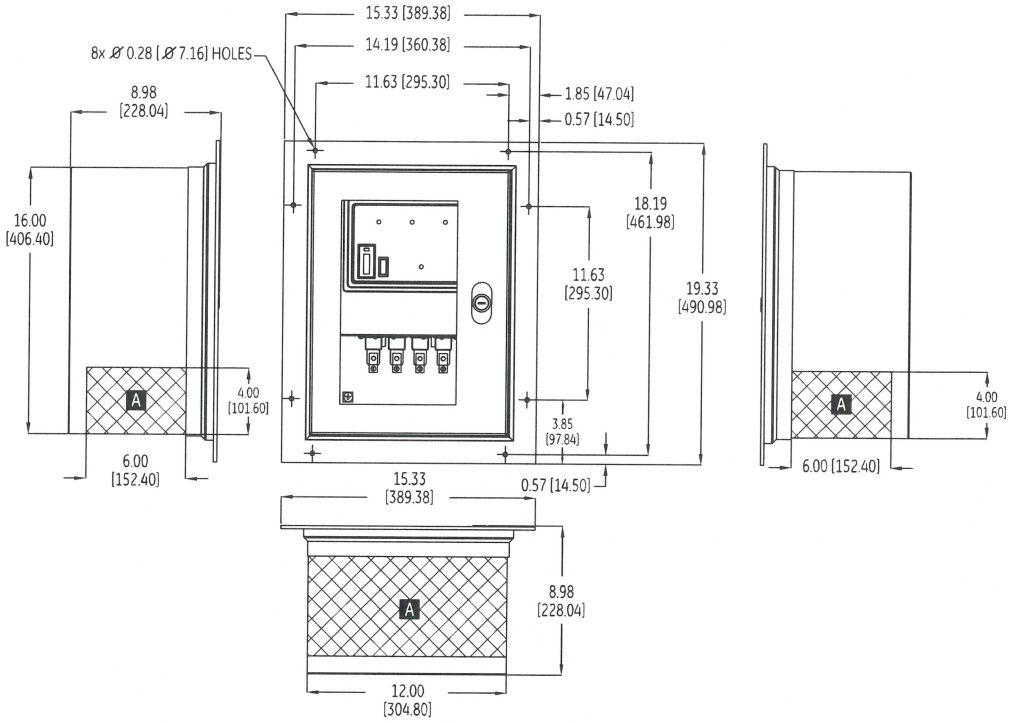


NOTE:
All dimensions are for reference only and are shown in Inches [millimeters]

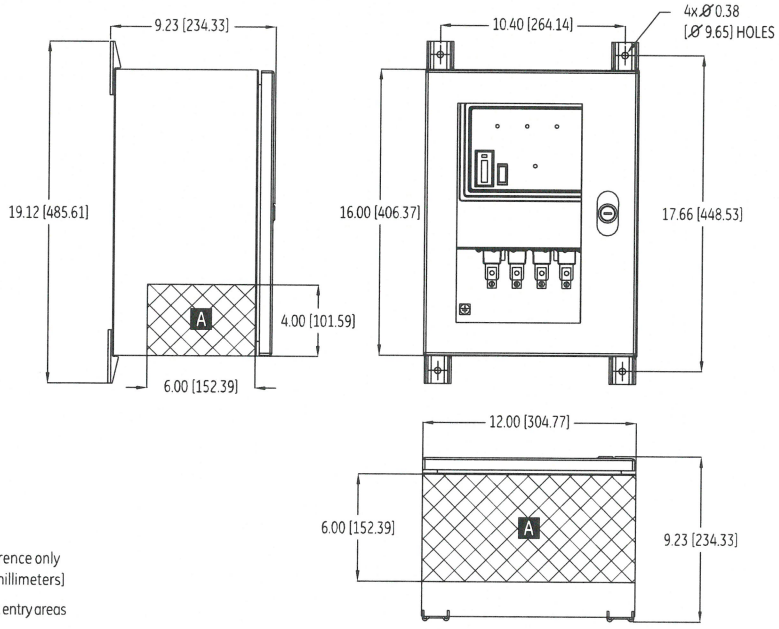
"A" = Recommended conduit entry areas

Dimensions

WMN12F Suffix



WMN12S, WMN4S, WMN4X Suffix



NOTE:
All dimensions are for reference only and are shown in Inches [millimeters]

"A" = Recommended conduit entry areas

imagination at work

GE Digital Energy – Power Quality
830 W 40th Street, Chicago, IL 60609 USA
800 637 1738 **www.gepowerquality.com**

Capacitors, Arresters and Harmonic Filters
Tranquell™ Secondary Surge Arresters and Protective Capacitors

120-650 Vac
Series 9L15F

Assures Service Continuity

The GE Tranquell™ secondary arrester is specifically designed to protect utility, agricultural, and industrial installations and equipment in the 120-650 volt range from overvoltages caused by lightning discharges. It is available for both single- and three-phase application.

Applications that provide ideal installations for this arrester are:
—Exposed secondary circuits
—Watt hour meters
—Station auxiliary equipment and circuits
—Motors and control circuits
—Distribution transformer secondaries

Dependable Protection

The unique metal oxide element inside each Tranquell™ arrester gives you improved overvoltage protection. These tough elements are designed so that they can handle surge after surge without trouble, breakdown, or repairs. Your arrester's protective ability will remain unchanged throughout its service life.

Secondary Arresters – Indoor or Outdoor Mounting

Circuit Voltage Rating rms	Max. Permissible Line-to-Ground Voltage rms	No. of Poles	Net Weight (lbs/Kg)	Product Number[1]
120	175	2	1.0/0.4	9L15HCB001
650	650	1	1.0/0.4	9L15GCA001
650	650	2	1.0/0.4	9L15GCB001
650	650	3	1.0/0.4	9L15GCC001

Non-PCB Secondary Protective Capacitors– Indoor or Outdoor Mounting

Circuit Voltage Rating rms	Max. Permissible Line-to-Ground Voltage rms	No. of Poles	Net Weight (lbs/Kg)	Product Number[1]
0-650	650	3	4.00/1.8	9L18BBB301

[1]Quantity break pricing applies; consult factory or your GE sales representative.

Secondary Surge Arrester Protective Characteristics

Discharge Voltage kV Crest (8 x 20 Microsecond Current Wave)				Discharge Capabilities	Energy Handling Capability
1.5 kA	5.0 kA	10.0 kA	20.0 kA	8 x 20 microsecond	
2.2	2.6	2.9	3.5	20,000 amp	900 joules per pole

Fusing

To minimize the possibility of violent rupture in the unlikely event of electrical failure of the arrester, current limiting fuses are recommended for all applications above 120 volts. A fuse must be installed in series with each pole of the arrester (i.e. each black wire). See Fuse Selection table below. The GEH-4982C instruction book shipped with each arrester also includes fusing guidelines.

Fuse Selection – For 9L15E Series (above 120V)

Arrester Location	Maximum Lightning Impulse[2,3]	Fuse Rating[4]
A Long Branch Circuit more than 20m from Service Entrance with wires #14-10	200A	30 A; 600 V U.L. Class T 200,000 A Interrupt
B Major Feeders and Short Branch Circuits less than 20m from Service Entrance	3 kA 8x20 µs	30 A; 600 V U.L. Class T 200,000 A Interrupt
C Outside and Service Entrance	10 kA 4x10 µs	30 A; 600 V U.L. Class T 200,000 A Interrupt

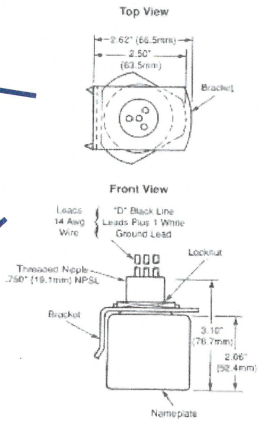


Figure 1
Tranquell™ Arrester

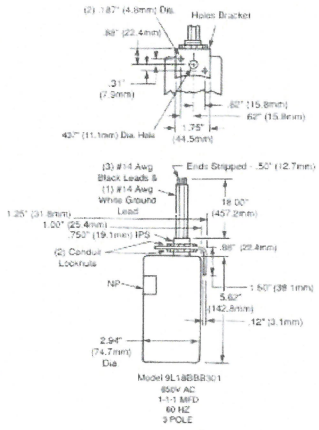


Figure 2
Protective Capacitor[5]

[2]Maximum impulse expected as described in ANSI/IEEE C62.41 for systems with medium exposure to surges. Arresters have been design tested to impulses as high as 20 kA, 8x20µs.
[3]Design tests for secondary arresters as required by ANSI/IEEE standards are limited to a maximum of 10 kA, 4x10µs impulses.
[4]UL Class CC (Midget) 30 A fuses are also satisfactory for locations A and B.
[5]Secondary capacitor is a 3-pole device that can be applied with 1- and 2-pole arresters by connecting the corresponding black leads and tying off the unused leads.